

Listing of Claims

1. (Currently Amended) A method ~~of comprising~~ searching for information in a
mobile communication system ~~for use of a network address, comprising:~~

determining if a target IP address is an active address;

if the target IP address is an active address, determining if a packet call
corresponding to the target IP address exists in a packet data protocol context database;

if the target IP address does not exist in the packet data protocol (PDP) context
database, setting a trigger flag for the target IP address; and

performing at least one of a tracing or monitoring operation for the packet call or
target IP address based on the set trigger flag.

2. (Canceled)

3. (Currently Amended) The method of claim 2, wherein the internet protocol
address is one of:

a static internet protocol address; ~~or and~~

a dynamically allocated internet protocol address.

4. (Original) The method of claim 1, wherein said searching is responsive to a

request from a network management center including identification of the network address.

5. (Original) The method of claim 4, wherein the request from the network management center is responsive to a request from an internet protocol network including identification of the network address.

6-11. (Canceled)

12. (Currently Amended) The method of claim 1 ~~14~~, wherein if it is determined that the target IP network address exists in the packet data protocol context database, then performing at least one of tracing or ~~and~~ monitoring of the packet call or the target IP network address without setting said trigger flag for the target IP address.

13. (Currently Amended) The method of claim 1 ~~[[6]]~~, ~~wherein said searching comprises~~ further comprising: transmitting results of said at least one of tracing or ~~and~~ monitoring the target IP network address.

14. (Original) The method of claim 13, wherein said transmitting is to a network management center.

15. (Canceled)

16. (Currently Amended) The method ~~apparatus~~ of claim 1-15, wherein ~~the apparatus~~
~~is comprised in~~ a serving GPRS support node implements one or more of the determining,
setting, or performs steps.

17. (Currently Amended) The method ~~apparatus~~ of claim 1-15, wherein ~~the apparatus~~
~~is comprised in~~ a gateway GPRS support node implements one or more of the determining,
setting, or performs steps.

18. (Currently Amended) An apparatus comprising:
an interface to an internet protocol network; and
a means for tracing or and monitoring a packet call of a mobile communication
subscriber who has connected to the internet protocol network through the interface, wherein
said means includes a processing circuit to:

check if a target IP address is an active address;

if the target IP address is an active address, determining if a packet call
corresponding to the target IP address exists in a packet data protocol context database;

if the target IP address does not exist in the packet data protocol (PDP) context

database, setting a trigger flag for the target IP address and tracing or monitoring the packet call based on the set trigger flag.

19. (Canceled)

20. (Currently Amended) A method of tracing or ~~and~~ monitoring a call in a mobile communication system provided with a network management center and a serving general packet radio service (GPRS) support node (SGSN), the method comprising:

~~a first step of a related agency~~ transmitting a target Internet protocol (IP) address subject to a request for tracing or ~~and~~ monitoring to the network management center of the mobile communication system;

~~a second step of the network management center~~ requesting ~~[[a]]~~ packet call tracing or ~~and~~ monitoring of the target IP address to the SGSN; ~~[[and]]~~

~~a third step of the SGSN~~ tracing or ~~and~~ monitoring, in the SGSN, the packet call of the target IP address; and

transmitting a result of the packet call tracing or ~~and~~ monitoring to the network management center, wherein said tracing or monitoring includes:

checking whether the target IP address is an effective IP address in a network to

which a corresponding subscriber belongs; and

if it is checked that the target IP address is the effective IP address, activating the call tracing or monitoring of the target IP address.

21. (Canceled)

22. (Currently Amended) The method of claim 20 ~~21~~, further comprising: ~~the step of~~
if it is checked that the target IP address is not the effective IP address in the network to which the corresponding subscriber belongs, returning the system to a state before the request for tracing and monitoring of the target IP address is produced in the IP network.

23. (Currently Amended) The method of claim 20 ~~21~~, wherein ~~the step of~~ activating the packet call tracing and monitoring of the target IP address comprises ~~the steps of~~:

~~the SGSN~~ judging whether the packet call having the target IP address exists in a packet data protocol context database stored in the SGSN; and

if it is judged that the packet call having the target IP address exists in the packet data protocol context database, starting the packet call tracing or ~~and~~ monitoring of ~~an address~~

of the target IP address.

24. (Currently Amended) A The method of claim 23 tracing or monitoring a call in a mobile communication system, comprising:

transmitting a target Internet protocol (IP) address subject to a request for tracing or monitoring to a network management center;

requesting packet call tracing or monitoring of the target IP address to an SGSN;

tracing or monitoring the packet call of the target IP address; and

transmitting a result of the packet call tracing or monitoring to the network management center, wherein said call tracing or monitoring of the target IP address is activated by:

determining that the packet call having the target IP address does not exist in a packet data protocol context database,

setting a trigger flag of the target IP address, and

if the packet call having an IP address with the set trigger flag exists in the packet data protocol context database, starting the packet call tracing or and monitoring of the target ~~corresponding~~ IP address.

25. (Currently Amended) The method of claim 20 ~~24~~, wherein ~~the step of performing~~ the packet call tracing ~~or and~~ monitoring includes at least one of: ~~is a step of the SGSN~~
checking whether a request ~~or and~~ change of the packet call has occurred,
checking whether a request for release of the packet call has been made; or
checking whether a protocol which involves one or ore ~~are produced with respect~~
~~to a messages have been transmitted between that~~ the SGSN ~~transmits to and receives from~~ a mobile station.

26. (Currently Amended) The method of claim 25, wherein the one or more messages transmitted between ~~that~~ the SGSN ~~transmits to and receives from~~ the mobile station includes at least one of an active packet data protocol (PDP) context request message that is transmitted from the mobile station to the SGSN ~~or and~~ an active PDP context request response message that is transmitted from the SGSN to the mobile station.

27. (Canceled)

28. (Currently Amended) The method of claim 20, further comprising ~~a fourth step of~~
~~the SGSN;~~ inactivating the packet call tracing ~~or and~~ monitoring after a predetermined period

of time after the third step.

29. (Currently Amended) The method of claim 28, wherein said ~~the fourth step of~~ inactivating ~~the packet call tracing and monitoring of the target IP address~~ comprises the steps of:

~~the SGSN~~ receiving input of the target IP address subject to inactivation through the network management center;

checking whether the packet call tracing or ~~and~~ monitoring of the target IP address is in an active state; and

if it is checked that the packet call tracing or ~~and~~ monitoring of the target IP address is in the active state, terminating the activation and transmitting a result of the inactivation.

30. (Currently Amended) The method of claim 29, wherein said ~~the fourth step of~~ inactivating ~~the packet call tracing and monitoring of the target IP address~~ further comprises the steps of:

if it is checked that the packet call tracing or ~~and~~ monitoring corresponding to the target IP address is in the ~~an~~ inactive state, checking whether a trigger flag for the tracing and

monitoring of the target IP is set; and

if it is checked that the trigger flag is set, removing the trigger flag and terminating the tracing or and monitoring of the packet call of the target IP address work.

31. (Currently Amended) The method of claim 30, wherein ~~the fourth step of~~ inactivating the packet call tracing or and monitoring of the target IP address further comprises: ~~the step of~~

if it is checked that the trigger flag for the call tracing and monitoring of the target IP address is not set, returning the mobile communication system to a state that existed before an address of the target IP address subject to inactivation is inputted to the network management center.

32. (Canceled)